DOCUMENT RESUME

ED 238 996 UD 023 285

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TITLE The Effects of Classroom Racial Composition on Students' Interracial Friendliness.
INSTITUTION Wisconsin Center for Education Research, Madison.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE [82]
GRANT G-81-0009
NOTE 40p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Classroom Desegregation; *Desegregation Effects; Elementary Education; *Friendship; Longitudinal Studies; Peer Relationship; Racial Balance; *Racial Composition; *Racial Integration; *Racial Relations
IDENTIFIERS *Cross Race Interaction

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This study examines the effects of racial composition of a classroom on students' cross-race and same-race friendships. Two "theories" of interracial sociability are discussed. The first argues that interracial friendliness is affected primarily by the number of opportunities students have for cross-race interaction relative to same-race interaction. It predicts that students in the numerical minority are likely to make more cross-race friendship choices than those in the majority. The second claims that the racial minority is socially threatened by the majority and tends to isolate itself from the more dominant and powerful other race. These predictions are examined in a longitudinal data set on 473 elementary school students in 18 desegregated classes over a school year. The results provide strong support for the opportunity hypothesis and show little evidence that being in the minority diminishes interracial friendliness. (Author/CMG)

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The Effects of Classroom Racial Composition on Students' Interracial Friendliness

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This research was funded by the Wisconsin Center for Education Research which is supported by a grant from the National Institute of Education (Grant no. NIE-G-81-0009). The opinions expressed in this paper do not necessarily reflect the position, policy or endorsement of the National Institute of Education. We are grateful to Ed Hutchins and Karen Shire for assistance with the analysis.

UD023285

ABSTRACT

This study examines the effects of the racial composition of a classroom on students' cross-race and same-race friendships. Two "theories" of interracial sociability are discussed. The first argues that interracial friendliness is affected primarily by the number of opportunities students have for cross-race interaction relative to same-race interaction. It predicts that students in the numerical minority are likely to make more cross-race friendship choices than those in the majority. The second claims that the racial minority is socially threatened by the majority and tends to isolate itself from the more dominant and powerful other race. These predictions are examined in a longitudinal data set on 473 elementary school students in 18 desegregated classes over a school year. The results provide strong support for the opportunity hypothesis and show little evidence that being in the minority diminishes interracial friendliness.

The major reason for court enforced desegregation of American public schools has been to provide black students with equal opportunities for educational achievement and attainment. A secondary motivation, less frequently articulated but present, nonetheless, has been to promote positive interracial attitudes and social behaviors among students. Most of the research on desegregation examines its effects on change in the academic achievement of black and white students; desegregation effects on the social relationships of blacks and whites have received less attention. Nevertheless, the relationship between desegregation and interracial behavior is of considerable interest both because social relationships may affect student achievement and because the effects of desegregation on interracial attitudes and behaviors may have long range consequences for adult behavior.

Several recent reviews of research on the effects of desegregation on racial attitudes and behaviors are found in the literature (Carithers, 1970; Cohen, 1975; St. John, 1975; Stephen, 1978, McConahy, 1978; Schofield, 1978). These reviews show that the research is fairly atheoretical and the results somewhat inconsistent. The studies reviewed are generally cross-sectional and lack methodological rigor and sophistication. Only a small number of more rigorous longitudinal studies examine change in interracial attitudes and behaviors before and after desegregation or in desegregated classes over one or more school years. These studies generally show negative effects of desegregation. For example, Gerard and Miller (1975) analyzed the sociometric choices of students in a large number of elementary and secondary schools over several years; they concluded that little or no real integration took place in the schools and that racial and ethnic cleavage seemed to increase over time. Shaw (1973) examined the sociometric choices of fourth and fifth grade students after a desegregation order at three points in time. His conclusions were

similar to Gerard and Miller's, namely, that desegregation leads to less acceptance of members of another race.

Relatively few studies of the social relations between blacks and whites in desegregated settings have taken school or classroom characteristics into account. Those that do generally examine the effects of specific pedagogical practices on race relations. Damico et al. (1981) compared the number of cross-race friends in middle school classes that were team structured to those in traditionally structured schools and found that whites in team organized schools had significantly more black friends than whites in traditionally organized schools. The results were in the same direction but weaker for blacks. Blaney et al. (1977) found that fifth grade students who were assigned to small interdependent learning groups liked their other race peers more than students not organized in groups. In an observational study, Schofield and Sagar (1977) investigated the seating patterns of seventh and eighth grade students in a school cafeteria and concluded that within class tracking that created heavily racially imbalanced groups increased racial cleavage outside the classroom. In a sample of fourth, fifth and sixth grade students in 19 desegregated classrooms, Hallinan and Smith (1984) found that when black and white students were assigned to the same ability groups, whites were friendlier toward blacks but blacks less friendly toward whites. Participation in the same school activities had a positive effect on black friendliness toward whites but no effect on white interracial friendliness. These studies suggest that opportunities for interracial interaction that reduce status inequality improve interracial sociability in desegregated classrooms.

Only three studies can be found that examine the effects of opportunities for interracial interaction, as determined by the racial composition of the class, on students' interracial friendship. St. John and Lewis (1975) found

that class percent white had a positive effect on interracial popularity for black and white boys but that black girls were more popular with whites in majority white classrooms. Class racial composition had no effect on same race popularity. Relying on a large longitudinal data set obtained from 5,479 students in twelve secondary schools, Patchen (1982) reported descriptive information showing that whites had more friendly interracial contact as the percent blacks increased. This result is consistent with St. John and Lewis' finding for white boys. In contrast, however, Patchen found that blacks became less friendly toward whites as proportion black increased from a small to a large minority and then became more friendly as the proportion black increased to a large majority. In a sample of twenty desegregated classrooms in six schools, Hallinan, (1982) found that both blacks and whites were more integrated in their friendships in majority white classrooms and that segregation by whites decreased over the school year while black segregation remained constant. Again, this is consistent with St. John and Lewis' finding of greater interracial popularity of white boys in majority white classrooms but not with their other results or with Patchen's findings.

While the results of these three studies are not consistent, neither are they directly comparable. St. John and Lewis compare black and white popularity (number of sociometric choices received) in a sample of sixth grade classes. While controlling for a number of student characteristics, they ignore possible differential levels of friendliness between blacks and whites which could account for their findings. Hallinan controls for black friendliness in the sociometric choices of fourth through sixth grade students and examines race differences in patterns of friendliness (number of sociometric choices given) across categories of classroom racial composition. However, her model does not

control for individual level characteristics of the students. Patchen's study is based on observational and interview data from a sample of secondary school students and employs descriptive rather than inferential analysis.

The limitations of these studies point to a need for a closer investigation of the effects of classroom racial composition on interracial friendship. This study will examine how classrom racial composition affects the interracial friendliness of black and white students and whether racial composition has a differential effect on black and white cross-race friendship choices. The analysis will be based on longitudinal data and will take into account relevant individual level characteristics of students.

Classroom Racial Composition and Interracial Friendliness

Two competing arguments lead to different predictions about the effects of classroom racial composition on interracial sociability. The first argument is that the racial composition of a classroom affects cross-race friendship by constraints opportunities for cross-race interaction. As the racial composition of a class varies the number of opportunities for contact with cross-race peers changes. If the total size of a class remains fixed, an increase in the number of black students provides more opportunities for whites to interact with blacks by chance and fewer opportunities for blacks to interact with whites. This is a logical consequence of the arithmetic properties of groups. Blau (1977) points out that if people are divided into two groups that differ in size, the rate of interaction between the members of the two groups is greater for the smaller group than for the larger, assuming that the interactions are dyadic and symmetrical. In a classroom containing four black and six white students, for example, if two cross-race interactions occur, each involving different students, then half the blacks are involved in the interactions compared to only a

third of the whites. The number of individuals in the cross-race interactions may differ, of course, since in one classroom a single student may have many cross-race interactions and in another the interactions may be more evenly distributed across students. That is, the minority group may be more involved than the majority either because a larger proportion of the small group's members have cross-race interactions or because those that do have more intergroup interactions or both. In either case, the total number of interactions is the same for blacks and whites implying that the average number of interracial interactions by blacks or whites is inversely related to the size of their racial groups. Since interaction often leads to friendship, this suggests that the proportion of cross-race friendships in a classroom will be greater for the students in the racial minority.

It does not follow logically from the numerical properties of groups that asymmetric ties have the same pattern of greater involvement by the smaller group as do symmetric ties. However, while some friendship choices are asymmetric, especially those based on status or esteem, many are reciprocal both because mutual friendships ties are rewarding and because individuals experience a pressure to reciprocate positive affect (Gouldner, 1960). Hence one could expect at least a weak inverse relationship between group size and cross-race friendships choices with the strength of the relationship depending on the number of mutual friendship choices made between the groups.

A related consideration is the notion of a friendship threshold. If students have a propensity to make a certain number of friends, they are likely to continue choosing friends until they reach their threshold. Assuming that race is a barrier to friendship, students are likely first to select same race friends. If they exhaust the number of same race peers before reaching their threshold, they may then consider selecting other race peers, preferring to

relate to dissimilar others than to remain relatively isolated. The more members of another race who are present in a classroom the easier it is for students to find other race peers who possess the characteristics they find attractive in a friend. Thus both the number of same race and the number of other race peers in a classroom influence interracial friendship. In other words, the ratio of black to white students or the proportion black is expected to affect the incidence of interracial friendship choice.

Based on these considerations, the opportunity hypothesis predicts that as the proportion of black students in a classroom increases the probability that a white student will choose a black peer as friend will increase. Similarly, as the proportion of black students decreases the probability that a black pupil will choose a white peer increases. These opportunity arguments do not predict how the racial composition of a classroom affects the probability of students' making same race friendship choices.

A counter argument focuses on the effects of status inequality on interracial interactions. To the extent that students adhere to the values and norms of adult society, they will associate higher status with being white. Status differences often lead to prejudice which acts as a social threat to the lower status group. Katz (1964) argues that the social threat caused by prejudice lowers the self esteem of blacks which results in further social rejection. One reaction to rejection is hostility and blacks may reject whites as an expression of their hostility. Another reaction to social threat is withdrawal; blacks may avoid interaction with whites and turn to their same race peers for social support. Either response results in greater racial cleavage between blacks and whites.

A similar dynamic may govern the interracial relations of whites in a classroom that is majority black. While whites are generally viewed as having

higher status than blacks, being in a racial minority is associated with lower status and social power. St. John and Lewis (1975) argue that being in the racial minority in a classroom is a conspicuous and possibly defenseless position that increases students' identity with their same race peers and decreases their interactions with the other racial group. Thus if white students feel threatened they are likely to isolate themselves from the black majority and rely on their same race peers for friendship.

A factor that may contribute to the amount of social threat experienced in a desegregated classroom is the size of the racial majority. When one racial group has a large majority, it is likely to have more social power and to be perceived by the minority as representing a greater social threat than if the ratio of majority to minority is more equal. When the racial minority is small, it has greater visibility which, according to Ehrlich (1972), creates greater consensus about stereotypes. Hyman (1969) claims that the stereotypes students hold are exaggerated by the visibility of the minority group preventing students from perceiving similarities that cross racial lines.

This argument suggests that as the proportion of white students in a desegregated classroom inceases, the number of cross race choices made by blacks will decrease and the number of same race black choices will increase. Similarly, as the proportion of black students in a desegregated classroom increases, the number of cross-race choices made by whites will decrease and the number of same race white choices will increase.

These two arguments, the first based on availability of same and other race peers and the second on status differences between blacks and whites, ignore situational determinants of interracial sociability. Regardless of opportunities for interaction and pre-existing racial sterotypes and prejudices, interracial friendliness is likely to vary with the social environment of the

classroom. Allport's (1954) contact theory suggests that interracial contact may reinforce stereotypes and increase hostility between blacks and whites unless it occurs in a situation that promotes equal status for black and white students and that supports positive interracial interactions. Pettigrew (1969) argues that integration requires equal access on the part of blacks and whites, not only to physical resources but also to social status and that positive attitudes by school authorities are essential to create a classroom climate that has norms supportive of interracial interaction. Cohen (1972) goes further than contact theory claiming that equal status is not sufficient and that status reversal is required to insure that blacks can overcome traditional white dominance. These theoretical perspectives imply that the social processes that occur within the classroom affect the amount and quality of contact between blacks and whites as well as the extent to which stereotypes and prejudices influence interracial interaction. Hence, the social environment of the classroom may modify the effects of classroom racial composition on cross race friendliness.

Few contemporary elementary school classrooms are at either extreme in terms of a social environment that is supportive of interracial sociability. Most school personnel are believed to accept school desegregation and to concern themselves primarily with the cognitive development of all their students. But if teachers and principals are supportive of friendly relations between black and white students, they seldom have the time or resources to reduce or reverse existing status differences between the races. Consequently, in the average desegregated classroom the quality of interaction between black and white students is based on pre-existing attitudes and beliefs, or structural constraints on interaction created by classroom characteristics, such as grouping practices, and on a low to moderate level of encouragement for

interracial sociability by teachers and other school staff. In this kind of atmosphere, the direct influence of classroom racial composition is not likely to be modified in any major way by the social environment of the classroom. In this study we will examine the effects of classroom racial composition on the formation and stability of interracial friendships in several elementary classrooms in schools that had been desegregated for several years. While obvious interracial hostility was not tolerated in these schools, at the same time no special program to promote interracial friendliness was in effect.

Sample

The analysis reported here is part of a larger longitudinal study of the determinants of change in children's friendships. The data set includes information on 1,477 students in 48 classrooms in 10 schools in northern California. For this study, 18 of the classrooms were selected on the basis of racial composition. The criterion for selection was that a class contain at least three students of the minority race, black or white, in order for a reasonable number of cross-race friendship choices to be possible. The sample consists of five fourth grades, five fifth grades, four sixth grades, three seventh grades and one combined 6-7 grade in three public and one private school. The mean class size was 28.5 with a standard deviation of 5.4. The few Asian and Chicano students in the classes were excluded from the analysis. The sample contained 473 students, of whom 257 (54%) were black and 216 (46%) were white. The classes ranged from 17% to 89% black. The unit of analysis for the study is the cross-race and same-race dyad; the sample contains 1,446 black-white dyads, 2,934 black-black dyads and 1,948 white-white dyads.

The students were given sociometric questionnaires at six time points over the school year at approximately six week intervals. They were provided with a

list of their classmates and next to each name were the categories "Best Friend", "Friend", "Know", "Don't Know" and "My Name". The students were instructed to circle one category for each name. They were told that they could designate as many children in each category as wished and were reassured that they didn't have to name any best friend or friend in their class since their friends might be in another class or school. When a student was absent for the data collection, the classroom teacher supervised their filling out the form the next time they were in school. This resulted in a complete set of sociometric data for all the students in the sample over the school year. Background information on the students and classroom level data were obtained from the teachers and from school records.

Some students in the classes in the sample did not receive their parents' permission to participate in the study or chose not to themselves. Less than 10% of the sample were non-participants. An examination of the background characteristics of these children and classroom observation of their social behavior revealed no evidence that these students differed in any systematic way from the other students in the sample.

Procedures

The dependent variable for the study is P's choice of O as Best Friend. We selected Best Friend as the choice criterion because a close friendship is believed to be more salient to students than a weaker friendship. Moreover, as Granovetter (1973) suggests, strong ties define social cliques which is the object of interest in this analysis while weak ties represent bridges between friendship groups. The results of the analysis of the weaker friendship ties will be presented in another paper.

Since the dependent variable is dichotomous, we estimate a logit model rather than an ordinary least squares regression model to determine the effects of classroom racial composition on friendship choice. The logit model is superior since it avoids two problems associated with regression and analysis on a dummy dependent variable, namely, the prediction of probabilities greater than unity or less than zero and the problem of heteroscedasticity which causes ordinary least squares estimates to be inefficient. In a logit model, the dependent variable is the natural logarithm of the odds of P's choosing O as Best Friend. The coefficient of an independent variable is the effect of a one unit change in the variable on the logarithm of the odds ratio. The chi-square statistic cannot be used to test the overall fit of a single logit model; it is only the difference between two chi-squares obtained from two logit models that is distributed as a chi-square. This is not a serious problem since we are less interested in the overall fit of the model than in the significance of the parameter estimates.

The independent variables in the model are percent black, class size, gender, grade of chooser, P's friendliness and O's choice of P. Class size is included as a control because it is related to proportion black in our sample ($r=.44$, $p<.05$) and we want to estimate the independent effects of proportion black on friendship choice. Grade is expected to have a negative effect on the probability of a cross-race friendship choice because students achieve greater racial awareness and are generally more vulnerable to peer pressure as they grow older. Gender is a dichotomous variable coded as unity if P and O have the same gender and zero otherwise. P's friendliness, measured as the number of best friend choices made by P, is included as a control for racial differences in the propensity to select friends because previous analyses (Hallinan, 1982, Hallinan and Tuma, 1978, Tuma and Hallinan, 1979) showed that blacks are friendlier to

same-race and cross-race peers than whites. O's choice of P is also a dichotomous variable, coded as unity if O chooses P as a best friend and zero otherwise. It is included as a control because P is more likely to choose O as a friend if P perceived positive regard from O.

The model is estimated on cross-sectional data at three points over the school year, time 2 (November), time 4 (February) and time 6 (May). The purpose of the cross-sectional analysis is to identify factors that affect the selection of a best friend and to determine if those factors change over time. The cross-sectional analysis is limited because it assumes that the process of making friends is in a state of equilibrium, which may not be the case. The longitudinal analysis is more informative although it is limited by a smaller sample. It examines change in P's choice of O from friend to best friend at times 1-2 (Sept. - Nov.), 3-4 (Dec. - Feb.) and 5-6 (April-May). The sample is reduced to about a third of the number of dyads in the cross-sectional analysis due to the selection only of friend choices. The model was estimated separately by race resulting in four analyses for each time interval: cross-race choices for blacks and for whites and same race choices for blacks and for whites. The separate analyses are appropriate since race of chooser may interact with many of the independent variables in the model.

Three methodological problems are associated with our analysis. The first has to do with the dependency of observations in sociometric data. P's choice of O is likely to be influenced by P's choice of other classmates as well as by O's choice of P. This is an intractable network problem that has not been solved mathematically. Our inclusion of O's choice of P as a control variable in the analysis reduces the problem to some degree. In general, the situation is handled by recommending that results be interpreted conservatively. For this reason we report significance at the .05, .01 and .001 levels. A second problem

associated with our analysis is that the sample includes a large number of dyads from each class or grade. This is typical of research on school and classroom effects and raises the question as to what is the appropriate sample size since the observations from a single classroom may exhibit dependencies. Cronbach et. al (1976) suggests a conservative approach in making generalizations from one's sample. A third problem is that the number of cross-race (and same race) dyads varies across classrooms due to variation in the proportion blacks implying that some classes are disproportionally represented in the sample. To avoid this situation, we randomly sampled approximately 30 each of the cross-race, black-black and white-white dyads from each class. This produced about 500 dyads of each type for the analysis. This number varies somewhat across time due to missing data for one or more students.

Results

The mean number of best friend choices made by the black and white students in the sample at the beginning of the school year are 4.45 and 2.61 respectively. This shows that the black students in the sample are friendlier than the whites. To determine whether the greater friendliness of blacks applies to other race as well as same race peers, the mean number of cross race and same race friendship choices by blacks and whites was calculated. These results are presented in Table 1. They show that blacks are friendlier to same-race peers

TABLE 1 here

than are whites with their greater friendliness being maintained over the school year. Differences in the friendliness of blacks and whites to cross-race peers are small and decrease over the school year.

Controlling for friendliness, the probability that blacks and whites make cross race best friend choices can be compared. Tha ratio of cross-race best

friend choices to all best friend choices made by blacks is .22, .27 and .25 at times 1, 3 and 5 respectively. The equivalent proportions for whites are .23, .34 and .37. When black friendliness is taken into account, black and white students are equally likely to make a cross-race best frend choice at the beginning of the year. However, as the school year progresses, the tendency of whites to choose blacks as best friends is greater than the tendency of blacks to choose whites.

Table 2 presents the means and standard deviations of the variables in the

TABLE 2 here

cross-sectional analysis of cross-race and same-race friendship choices at the beginning of the school year. Table 3 presents the same information for the longitudinal analyses at the first time interval. The descriptive statistics in these tables are based on the random sample of dyads selected from the total sample for the logit analyses. Table 2 shows that best friend choices appear in only a small proportion of the cross-race and same-race dyads of blacks and whites. For example, of the 450 cross-race dyads in which the black is designated as chooser, a best friend choice occurs only 11% of the time, or in 50 cases. Similarly, whites choose blacks as best friends only 7% of the time or in 32 of the 450 white-black dyads. Same race dyads occur more than twice as frequently as cross race dyads for black and whites. The proportion of cross race and same race best friend choices is greater for blacks than for whites reflecting the greater friendliness of blacks.

The means and standard deviations of the independent variables in Table 2 further describe the random sample used in the analysis. Approximately half of the dyads in each of the four subsamples are the same gender with the other half being opposite gender, as one would expect given a fairly even distribution of students by gender across racial categories in each class. The means of the OPI

variable are consistent with the means of the dependent variable as is logically imperative. There are small differences between some of the values; for example in 7% of the black-white dyads the black chooses the white as best friend while in 6% of the white-black dyads the black chooses the white as best friend; these differences are due to missing data on a small number of dyad members of one or the other race in the subsamples.

The average proportion black for the 18 classes from which the cross-race dyads were drawn is 52%, the standard deviation of .25, indicates considerable variance in proportion black in the classes in the subsample. The same is true for the 15 classes that yielded the black-black dyads and the 13 classes that provided the white-white dyads. The mean proportion black shows that the black-black subsamples contain more blacks than whites while the white-white subsample contains more whites. The average class size in the four subsamples is approximately 28 students. The mean number of cross-race and same-race best friend choices (friendliness) of blacks is almost twice that of whites revealing again greater black friendliness.

Table 3 presents the means and standard deviations for the variables in the

TABLE 3 here

longitudinal logit analysis. The four subsamples represent the dyads in which P chooses O as Friend at time 1 and the analysis examines determinants of change from a friend choice to a best friend choice. In 23 (11%) of the 210 cross-race dyads in which the black is designated as chooser, P changes from a friend to a best friend choice across the first six week interval. The same is true in 19 out of 208 or 9% of the cross-race dyads in which the white student is choosen. In contrast, in 18% of the same-race dyads of blacks and 15% of the same race dyads of whites, the chooser changes from a friend to a best friend choice. Thus blacks and whites are more likely to change to a closer friendship tie with

a classmate of the same race than one of a different race. Black and white students are similar in the likelihood of forming a closer tie with a cross-race peer.

The means of the independent variables in the longitudinal sample are fairly similar to those reported for the cross-sectional sample with the exception of same gender. In about two-thirds of the cross race dyads of blacks and the same race and cross-race dyads of whites, in which P chooses O as a friend, O is the same gender as P. This is not true for the same race choices of blacks. When a black chooses a black classmate as a friend, the person chosen is as likely to be a male as a female. This result is surprising. It may be that since blacks are friendlier than whites, especially toward same race peers, they are more likely to ignore the typical barriers to friendship including gender in forming friendship ties.

Cross-sectional Analyses

The logit analyses shows the effects of proportion black and other class and dyadic level variables on the probability that a black or white student will choose a cross-race peer as best friend. The results are reported in Table 4. Table 5 presents the parameter estimates of the same model for the same race choices of blacks and whites.

The results in Table 4 show that proportion black has a statistically

TABLE 4 here

significant negative effect on the likelihood that a black student will choose a white classmate as best friend in five of the six time points over the school year. The effect is also negative at time 3 but fails to attain statistical significance. Similarly, proportion black has a statistically significant positive effect on P's choice of O as best friend for white choosers at times 2,

5 and 6. At the other three time pointsthe effect is positive but not significant. Thus black students are less likely to choose whites as best friends as the proportion of blacks in the class increases and are more likely to choose whites as the proportion of whites increases. A similar though weaker effect is found for whites. The likelihood that a white student will select a black peer as best friend increaes as the ratio of black to white students increases. These results provide strong support for the opportunity hypothesis. As the number of other race peers increases and the number of same race peers decreases, the probability that students will make cross-race friendship choices increases.

At the same time, the results provide little support for the threat argument. Table 5 reveals that proportion black has no effect on the likelihood

TABLE 5 here

of making a same race friendship choice by either black or white students. The sign of the parameter estimate fluctuates, especially for blacks and the coefficient never attains statistically significance. Hence, at least in this sample, a large proportion of classmates of another race does not increase the tendency of students in the minority select friends of their own racial group. Apparently neither blacks nor whites feel so threatened by being in the minority that they insulate themselves from the other race and form closer same race friendship ties than they would in segregated classrooms.

Table 4 shows a statistically significant negative effect of class size on the probability that a black student will choose a white peer as best friend at times 2, 3, 5 and 6 and a nonsignificant negative effect at times 1 and 4. The effect of class size on the cross race friendship choices of whites is negative and significant at five of the six time points. Thus large classes have a negative effect on interracial friendliness net of the effect of the class

racial comosition. The effect of class size on same race friendships, as reported in Table 5, is also generally negative but only significant twice for blacks and for whites. These results indicate that large classes are a deterrent to the formation of interracial friendship ties and to a small extent of same race ties. In large classes it may be more difficult for students to get to know their classmates well enough to form close friendship relationships. It must be remembered that the mean class size in our sample is 28.5 with a standard deviation of 5.2 indicating that the larger classes contain a considerble number of students.

The tendency to make cross-race friendship choices was expected to decrease as the students matured because of an increased racial awareness and a greater emphasis on similarily others. Only a slight tendency in this direction is found in the cross race friendships of blacks and none for whites. Grade has a negative effect on the probability of a black's choosing a white as best friend throughout the school year but the coefficient of grade is significant only at times 2 and 4. The effect of grade on the white choice of blacks is negative and significant only at one time point and the sign of the coefficient oscillates for the rest of the year. Given that the longitudinal analysis does not provide additional support for a grade effect, we conclude that the tendency to make cross race friendship choices is fairly constant across fourth through seventh grades. The racial awareness of the students may have been established before fourth grade while the pressure of peers to reject dissimilar others may not be felt until the students are in junior high school. Both of these factors are likely to vary by the background and experience of the students and should be examined more closely in other data sets.

The three dyadic level variables in the logit model are found to have consistently strong effects on friendship choices. In all the cross-sectional

analyses of the cross-race and same-race friendship choices of blacks and whites, being of the same gender has a statistically significant ($p < .001$) positive effect on the probability that P will choose O as best friend. Thus, gender emerges one of the most powerful predictors of close friendships, a finding that is consistent with much of the social psychological and child development literature. Interestingly, and again consistent with previous findings, the data show that gender creates a greater cleavage in the elementary classroom than race. In our sample, 22% of the friendship choices of blacks and 23% of those of whites are cross-race. In contrast 16% of the best friend choices of males and 12% of those of females are cross-gender. Only 5% of the best friend choices of blacks and 2% of those of whites are cross-gender and cross-race. Both blacks and whites are markedly more likely to choose as best friend a member of another race than a member of the opposite sex.

O's choice of P as best friend also emerges as a strong positive predictor of P's choice of O for both the cross race and same race choices of blacks and whites. Despite the fact that some sociometric choices may simply represent the desire for a friendship with a particular peer rather than an actual friendship, the reciprocity effect discovered here suggests that most sociometric choices do reflect positive affect toward peers of which peers are aware. Moreover, the results show that students generally respond to an overture of friendship even if the friendship would cross racial barriers.

The friendliness of the chooser was included in the model as a control variable because blacks were seen to be friendlier to cross race and same race peers than whites. P's friendliness has a statistically significant positive effect ($p < .001$) on the cross race and same race choices of blacks and whites at all time points. The friendlier the students are, in general, the more likely they are to make cross race friendship choices. The tendency to name many

classmates as best friends is not limited only to same race peers but includes cross race classmates as well. This result is consistent with the descriptive statistics which showed that blacks make more same race and cross race friendship choices than whites.

Longitudinal Analyses

The longitudinal analyses show the effects of proportion black and the other variables on change in a sociometric choice from friend to best friend. Table 6 reports the parameter estimates of the logit model for change in the

TABLE 6 here

cross race and same race friendship choices of blacks and whites. Proportion black is seen to have a significant negative effect on change from a friend to a best friend cross race choice for blacks at two of the three time intervals. The effect is negative but not significant at the beginning of the school year. Thus, the greater the ratio of black to white students in a class, controlling for class size, the less likely a black student is to change from a weak to a strong interracial friendship choice. In classes where the number of whites is greater than the number of blacks, change to a more intense positive relationship by blacks is more likely. These results are of course, consistent with the cross-sectional analysis showing a negative effect of proportion black on the selection of a cross-race best friend by blacks. The effect of proportion black on change in the cross race friendship choices of whites is less clear. The coefficient is not statistically significant although at the last time interval it is positive, as expected, and approaches significance ($p<.10$). These results are consistent with the weak effects of classroom racial composition for whites in the cross sectional analysis. They indicate that blacks are more influenced by classroom racial composition than whites both in terms of making a close friendship choice and of changing from a weak to a strong tie.

As in the cross sectional analyses, proportion black has no effect on change in the same race friendship choices of blacks or of whites. This finding provides further evidence of the insufficiency of the threat argument to explain friendship choices in desegregated classoom. Black and white students are more likely to form close friendship ties with same race peers in classes where they are in the minority than in those where they are in the majority. In contrast, the opportunity argument receives strong support in the longitudinal analysis with the relative number of blacks and whites affecting the tendency to form closer friendship ties.

The effects of the other two class level variables, class size and grade, on change in the cross race and same race friendship choices for blacks and whites are fairly weak. Class size has a significant negative effect on change from friend to best friend choice for whites only at the middle time interval and the effect is never significant for blacks. Nevertheless, given that the sample is considerably smaller than in the cross sectional analysis and that the signs of the coefficients are negative with a single exception, there results can be seen as pointing in the same direction as the cross-sectional analyses, namely, that large classes deter the formation of best friend choices between black and white students. Class size has a significant positive effect on change in the same race friendship choices of whites at the end of the year. Since this is the first time a significant positive effect of this variable appears, little importance is attached to it. In general, class size is seen to have little effect on the strengthening of same race friendships for blacks or whites. Apparently once a friendship is formed, class size does not affect the intensity of same-race relationship.

Grade appears as a negative effect on change in the cross race friendship choices of blacks at the middle of the year and as a positive effect on white

cross race choices at the end of the year. In the absence of a strong effect of grade in the cross-sectional analyses, these results are not given much import. At most, grade has a weak negative effect on the formation and intensification of black friendliness toward whites and virtually no effect on white interracial friendliness.

Finally, the dyadic level variables show similar though weaker effects on change in friendship choice as on the selection of a best friend as reported in the cross-sectional analysis. Same gender has a positive effect on strengthening the cross race friendship choices of blacks and whites at all three time intervals. The effects of same gender on same race choices is only significant at two of the three time intervals for blacks and for whites. It may be that having disregarded racial barriers to friendship, both black and white students need to adhere more closely to a gender barrier in their cross race friendships than in their same race friendships.

O's choice of P as best friend has a positive effect on change in a black student's choice of a white from friend to best friend at all the time intervals and is significant at the middle and end of the school year. The reciprocity effect is weaker for change in white cross race friendship choices and emerges as positive and significant only at the middle interval. Similar results are found in the same race change in the same race friendships of blacks and whites. Apparently, the reciprocity effect is stronger on the selection of a cross race and same race peer, as seen in the cross-sectional analyses, is stronger than on intensifying a cross race and particularly a same race friendship. It may be that P's awareness of O's positive regard influences P's selection of O as a friend but that other factors then affect change in the friendship. Finally, P's friendliness, or propensity to name best friends, affects change to a closer

friendship ties in the cross-race and same-race choices of both black and white students at every time point.

It would be interesting to conduct the same analysis on the dissolution of cross-race friend and same-race friendship choices. The appropriate sample would consist of cross race best friend choices and examine factors that affect change from best friend to friend choices. So few best friend choices appear in the sample that this analysis is impossible.

Discussion

This study provides evidence in support of the opportunity explanation of interracial sociability in desegregated classrooms. The cross-sectional analyses show that as the proportion of one racial group in a classroom increases, the friendlier students of the other race are toward that group. In addition, the longitudinal analyses demonstrate that as the proportion of blacks in a classroom decreases, the more likely blacks are to change from a weak to a strong friendship tie with a white. This effect is much weaker for whites. These findings indicate that racially balanced classrooms maximize the interracial friendliness of both blacks and whites. Minority black classroms promote white friendliness toward blacks even more than racially balanced classrooms but are an obstacle to black friendliness toward whites. Similarly, majority white classrooms produce the greatest amount of black friendliness toward whites but the least amount of white friendliness toward blacks.

These results might lead one to infer that when students are in a racial majority, they form tight knit same race cliques and isolate themselves against the minority race. However, this is not the case. Our analysis shows that proportion black has no effect on the same race choices of blacks or whites or on change from a weak to a strong friendship tie. Thus students in the majority

in a desegregated classroom simply seem not to be influenced in their same-race friendship patterns in any major way by the presence of other race peers.

Similarly, the argument that students in the racial minority in a desegregated classroom will isolate themselves against the majority because they experience social threat or low power or status does not receive support in the data. In our sample which was characterized by the absence of open hostility between blacks and whites, being in a racial minority did not seem to be a threatened position and did not result in students' forming exclusive same race cliques to protect themselves against a more powerful majority. On the contrary, while the racial composition of a classroom did not have any effect on students' same race choices, a large majority of one race promoted the popularity of the majority students with their other race peers.

These results suggest that when students are limited in the number of same-race peers they can select as friends due to their being in a minority in a classroom they prefer choosing other race peers to not having more friends. This implies that students have a friendship threshold. They likely try to make their preferred number of friends first by selecting same race peers and then begin to ignore visible barriers to friendship such as racial dissimilarity in order to choose enough friends to reach their threshold. While our study does not test the threshold hypothesis directly since we do not know if students select same race friends first, the greater friendliness of blacks and whites toward same race peers suggests that this is the case.

There are several important implications of these findings. In the first place, the study demonstrates how classroom racial composition differentially affects the interracial popularity of black and white students. When students are in the racial majority in a classroom they are more likely to be popular with their other race peers than when they are in the minority. Since a large

majority of desegregated schools are majority white, black students generally experience less interracial popularity than do whites. This implies that most desegregated classrooms represent a more supportive social environment for whites than for blacks. At the same time, however, majority white classrooms are known to increase the academic achievement of blacks compared to majority black or segregated classrooms. Given these divergent effects of desegregated classrooms, it seems important to identify school and classroom characteristics that may both promote academic achievement and interracial popularity for both racial groups independent of the racial composition of the classroom.

A second implication of our findings is that the racial composition of a student's immediate environment is a factor in race relations. Much research on the effects of desegregation on student interracial attitudes and behavior has looked only at school level variables. However, our analysis shows the importance of classroom racial composition on children's friendships. Our findings indicate that interracial sociability may vary with classroom racial composition within a desegregated school. Therefore, policies governing desegregation at the school level may not be sufficient to insure interracial contact and promote black-white friendships; the racial composition of the classroom must be taken into consideration.

Finally, the study implies that the racial hostility and separation that often occur among senior and junior high school students in desegregated schools is less a part of the interracial interaction of younger children. No evidence of social threat appeared in the friendship relations of the students in our sample. Thus desegregation efforts may be most successful at the elementary level, at least in terms of promoting interracial friendliness. It may be that successful social integration in the early years of school would then forestall

In future research on the effects of classroom racial composition on interracial sociability it will be important to take into account other classroom characteristics that may mediate the effects of classroom racial composition on friendship. For example, teachers' attitudes toward interracial friendships may create the kind of classroom atmosphere that directly promotes cross-race friendships. Teachers may deemphasize status differences as suggested by Allport (1954) or reverse the classroom status hierarchy, as encouraged by Cohen (1972). Pedagogical practices such as ability grouping, may also constrain cross-race interaction and limit interracial choice opportunities. The results of this study show that in the absence of significant teacher intervention, classroom racial composition has a fairly predictable and significant effect the cross-race social relationships of black and white students.

TABLE 1

Mean Number of Cross-Race and Same-Race Best Friend Choices of Blacks and Whites at Time 1.

Time	Blacks		Whites	
	Cross-Race	Same-Race	Cross-Race	Same-Race
1	0.98	3.47	0.61	2.00
3	1.21	3.25	1.07	2.08
5	1.07	3.20	1.04	1.81

TABLE 2

Means and Standard Deviations of Variables in Cross-sectional Logit Analysis of Cross-Race and Same-Race Best Friend Choices by Race at Time 1.

	Blacks		Whites	
	Cross-Race	Same-Race	Cross-Race	Same-Race
Dependent Variable: P O as Best Friend	0.11 (.31)	0.24 (.43)	0.07 (.26)	0.18 (.38)
Independent Variables:				
Same Sex	0.47 (.50)	0.49 (.50)	0.44 (.50)	0.54 (.50)
Grade	5.33 (1.06)	5.33 (1.08)	5.33 (1.06)	5.15 (.95)
OP 1	0.06 (.24)	0.23 (.42)	0.14 (.35)	0.19 (.39)
Prop. Black	0.52 (.25)	0.58 (.22)	0.52 (.25)	0.40 (.18)
Class Size	28.50 (5.24)	28.20 (5.35)	28.50 (5.24)	27.30 (5.53)
Friendliness	4.89 (4.09)	4.99 (3.85)	2.64 (2.39)	2.67 (2.22)
Number of Dyads	450	300	450	390
Number of Classes	18	15	18	13

NOTE: OP1 is O's choice of P as Best Friend at Time 1, PropBlack is the proportion of black students in the class, friendliness is the number of Best Friend choices made by P.

TABLE 3

Means and Standard Deviations of Variables in Longitudinal Logit Analyses of Cross-Race and Same-Race Best Friend Choices by Race at time 1-2.

	Blacks		Whites	
	Cross-Race	Same-Race	Cross-Race	Same-Race
Dependent Variable:				
Change in P's choice of O from Friend to Best Friend	0.11 (.32)	0.18 (.39)	0.09 (.28)	0.15 (.36)
Independent Variables:				
Same Sex	0.62 (.49)	0.48 (.50)	0.73 (.45)	0.69 (.47)
Grade	5.20 (1.05)	5.29 (1.10)	5.15 (1.10)	5.18 (1.03)
OP 1	0.10 (.29)	0.24 (.43)	0.22 (.41)	0.14 (.35)
Prop. Black	0.49 (.22)	0.60 (.22)	0.48 (.22)	0.36 (.18)
Class Size	28.00 (5.53)	28.93 (4.77)	28.31 (5.38)	28.00 (5.56)
Friendliness	4.63 (3.63)	5.35 (4.68)	3.26 (2.61)	3.27 (2.64)
Number of Dyads	210	196	208	132
Number of Classes	15	14	13	12

NOTE: OP1 is O's choice of P as Best Friend at Time 1, PropBlack is the proportion of black students in the class, friendliness is the number of Best Friend choices made by P.

TABLE 4

Cross-sectional Logit Models of the Cross-Race Best Friend Choices of Black and White Students Over a School Year

DEPENDENT VARIABLE: P's choice of O as Best Friend

TIME:	1	2	3	4	5	6
BLACKS						
INDEPENDENT VARIABLES[1]						
Constant	-2.20 (1.60)[2]	-1.06 (1.61)	-2.12 (1.35)	-2.97** (1.27)	0.00 (1.34)	-.95 (1.25)
Same Sex	1.68*** (0.45)	2.44*** (0.47)	2.78*** (0.44)	2.12*** (0.35)	2.29*** (0.39)	2.83*** (0.41)
Grade	-0.19 (0.19)	-0.33* (0.20)	-0.14 (0.16)	-0.27* (0.14)	-0.16 (0.17)	-0.07 (0.15)
OP 1	2.58*** (0.52)	2.50*** (0.48)	1.34*** (0.36)	1.82*** (0.33)	1.04** (0.37)	1.11*** (0.35)
PropBlack	-2.51** (0.95)	-2.78*** (0.87)	-1.04 (0.81)	-2.17** (0.71)	-2.76*** (0.86)	-1.54* (0.72)
Class Size	-0.05 (0.04)	-0.09** (0.04)	-0.11** (0.04)	-0.00 (0.03)	-0.12*** (0.03)	-0.09** (0.03)
Friendliness	0.37*** (0.05)	0.40*** (0.05)	0.35*** (0.04)	0.30*** (0.03)	0.30*** (0.04)	0.30*** (0.04)
N	450	507	540	680	540	540
WHITES						
Constant	-2.26 (1.95)	-4.50* (1.72)	-7.31*** (1.87)	-4.67** (1.81)	-5.74** (2.10)	-6.70*** (1.62)
Same Sex	2.47*** (0.77)	2.74*** (0.53)	3.25*** (0.55)	3.85*** (0.66)	3.79*** (0.69)	3.14*** (0.57)
Grade	-0.40* (0.24)	-0.14 (0.19)	0.17 (0.19)	-0.02 (0.19)	0.03 (0.24)	0.09 (0.18)
KOP 1	1.63*** (0.48)	1.80*** (0.39)	1.89*** (0.42)	2.11*** (0.38)	1.85*** (0.45)	1.81*** (0.40)
PropBlack	1.92 (1.32)	1.99* (0.89)	1.25 (0.86)	1.16 (0.85)	2.50* (1.15)	2.46* (1.09)
Class Size	-0.10* (0.06)	-0.08* (0.04)	0.06 (0.04)	-0.14*** (0.04)	-0.14** (0.05)	-0.10* (0.04)
Friendliness	0.32*** (0.08)	0.38*** (0.06)	0.44*** (0.05)	0.48*** (0.05)	0.55*** (0.07)	0.44*** (0.05)
N	450	507	540	680	540	540

[1]Note: OP1 = O's choice of P as Best Friend, PropBlack = Proportion Black.

[2]Standard Errors are in parentheses

*p<.05
**p<.01
***p<.001

TABLE 5

Cross-sectional Logit Models of Same-Race Best Friend Choices of Black and White Students Over a School Year

DEPENDENT VARIABLE: P's choice of O as Best Friend

TIME:	1	2	3	4	5	6
BLACKS						
INDEPENDENT VARIABLES[1]						
Constant	-6.67*** (1.58)[2]	-4.56*** (1.14)	-3.39** (1.17)	-2.20 (1.40)	-4.06*** (1.26)	-3.07* (1.40)
Same Sex	2.57*** (0.49)	2.36*** (0.38)	2.02*** (0.37)	1.91*** (0.40)	2.03*** (0.38)	2.61*** (0.43)
Grade	0.29 (0.18)	0.08 (0.14)	-0.04 (0.16)	0.11 (0.17)	0.22 (0.16)	0.12 (0.17)
OP 1	1.36*** (0.37)	1.45*** (0.30)	1.58*** (0.33)	1.96*** (0.36)	1.38*** (0.32)	1.02** (0.34)
PropBlack	0.47 (1.19)	-1.07 (0.69)	-1.04 (0.72)	0.20 (0.83)	-0.44 (0.75)	-0.71 (0.89)
Class Size	-0.02 (0.05)	0.00 (0.03)	-0.01 (0.03)	0.11** (0.04)	-0.05 (0.03)	-0.07* (0.04)
Friendliness	0.36*** (0.06)	0.26*** (0.04)	0.26*** (0.04)	0.31*** (0.04)	0.29*** (0.04)	0.27*** (0.04)
N	300	420	420	320	350	320
WHITES						
Constant	-4.42** (1.64)[2]	-6.19** (2.10)	-3.46 (2.49)	-9.39*** (2.39)	-7.02** (2.65)	-6.67** (2.25)
Same Sex	2.24*** (0.46)	4.18*** (0.79)	3.10*** (0.67)	3.68*** (0.79)	5.14*** (0.91)	3.21*** (0.63)
Grade	-0.03 (0.20)	0.16 (0.22)	-0.26 (0.28)	0.33 (0.24)	0.14 (0.27)	0.20 (0.24)
KOP 1	1.65*** (0.34)	1.79*** (0.40)	1.93*** (0.39)	1.28*** (0.38)	1.47*** (0.42)	2.88*** (0.42)
PropBlack	0.83 (0.91)	1.08 (1.06)	1.87 (1.19)	0.81 (1.12)	0.30 (1.25)	-1.33 (1.13)
Class Size	-0.01 (0.03)	-0.78* (0.04)	-0.07 (0.05)	0.04 (0.04)	-0.08* (0.04)	-0.03 (0.04)
Friendliness	0.28*** (0.06)	0.50*** (0.09)	0.30*** (0.06)	0.30*** (0.05)	0.45*** (0.07)	0.45*** (0.07)
N	390	364	390	390	390	390

[1]Note: OP1 = O's choice of P as Best Friend, PropBlack = Proportion Black.

[2]Standard Errors are in parentheses

*p<.05
**p<.01
***p<.001

TABLE 6

Longitudinal Logit Models of Change in Cross-Race and Same-Race Choices from Friend to Best Friend by Race over a School Year

DEPENDENT VARIABLE: Change in P's choice of O from Friend to Best Friend

TIME:	1 - 2	3 - 4	5 - 6	1 - 2	3 - 4	5 - 6
			CROSS - RACE			
	BLACKS			WHITES		
INDEPENDENT VARIABLES[1]						
Constant	-4.56* (2.38)[2]	-5.18* (3.12)	-3.52* (1.90)	-7.89* (3.44)	-2.59 (2.73)	-10.59*** (3.27)
Same Sex	2.62*** (0.76)	1.50* (0.70)	1.76*** (0.49)	3.37** (1.24)	2.58** (0.84)	1.69* (0.83)
Grade	0.19 (0.28)	-0.01 (0.32)	0.06 (0.20)	0.38 (0.34)	-0.27 (0.28)	0.97** (0.42)
OP 1	0.85 (0.79)	2.37*** (0.73)	1.69** (0.55)	0.80 (0.63)	1.81*** (0.49)	-0.21 (0.69)
PropBlack	-1.62 (1.53)	-3.24* (1.50)	-3.40*** (1.09)	-2.36 (2.06)	0.57 (1.22)	2.42 (1.48)
Class Size	-0.09 (0.06)	0.02 (0.07)	-0.03 (0.05)	-0.04 (0.07)	-0.11* (0.06)	-0.08 (0.07)
Friendliness	0.43*** (0.08)	0.28*** (0.06)	0.32*** (0.05)	0.56*** (0.12)	0.44*** (0.08)	0.51*** (0.11)
N	210	256	304	208	271	256
			SAME - RACE			
Constant	-4.18 (1.96)	1.26 (2.48)	-10.26*** (2.99)	-1.19 (3.05)	-8.94* (4.84)	-12.71** (4.31)
Same Sex	2.94*** (0.74)	-0.18 (0.54)	3.08*** (0.94)	2.50** (0.94)	4.14** (1.62)	1.36 (0.88)
Grade	-0.01 (0.26)	-0.47* (0.28)	0.42 (0.30)	-0.28 (0.32)	0.22 (0.53)	0.84* (0.42)
KOP 1	0.96* (0.52)	0.60 (0.62)	1.17* (0.60)	0.84 (0.55)	0.69 (0.88)	3.33*** (0.73)
PropBlack	-0.47 (1.69)	-0.52 (1.56)	-1.86 (1.47)	-0.40 (1.65)	-4.80 (3.56)	-3.01 (2.14)
Class Size	-0.05 (0.07)	-0.10 (0.08)	0.08 (0.07)	-0.09 (0.06)	0.38 (0.09)	0.15* (0.07)
Friendliness	0.32*** (0.06)	0.38*** (0.07)	0.45*** (0.09)	0.38*** (0.10)	0.56*** (0.18)	0.28** (0.10)
N	196	168	160	144	131	143

[1]Note: OP1 = O's choice of P as Best Friend, PropBlack = Proportion Black.

[2]Standard Errors are in parentheses

*p<.05
**p<.01
***p<.001

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